

Fig. 1

130

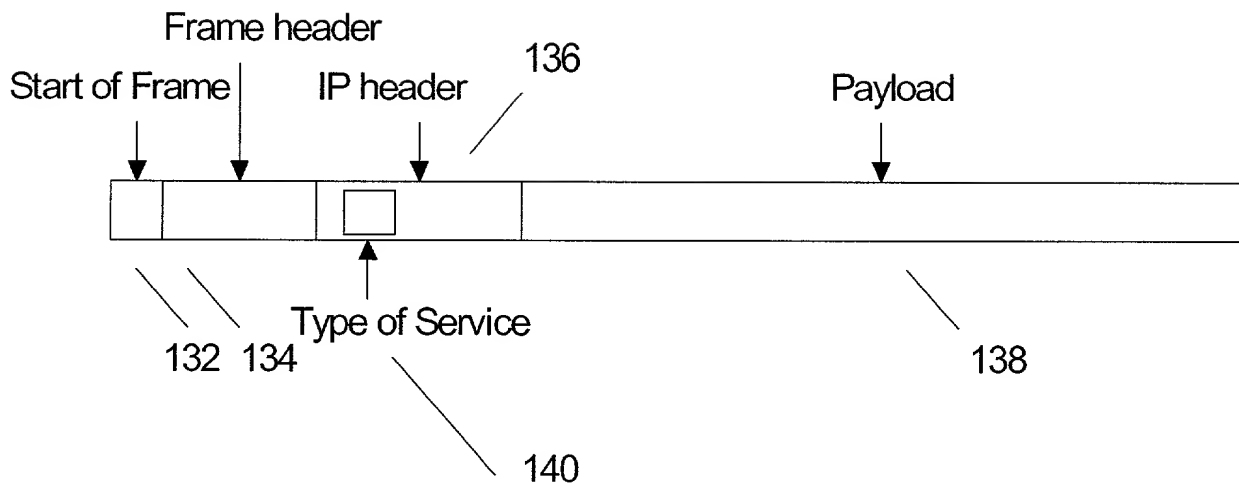


Fig. 2

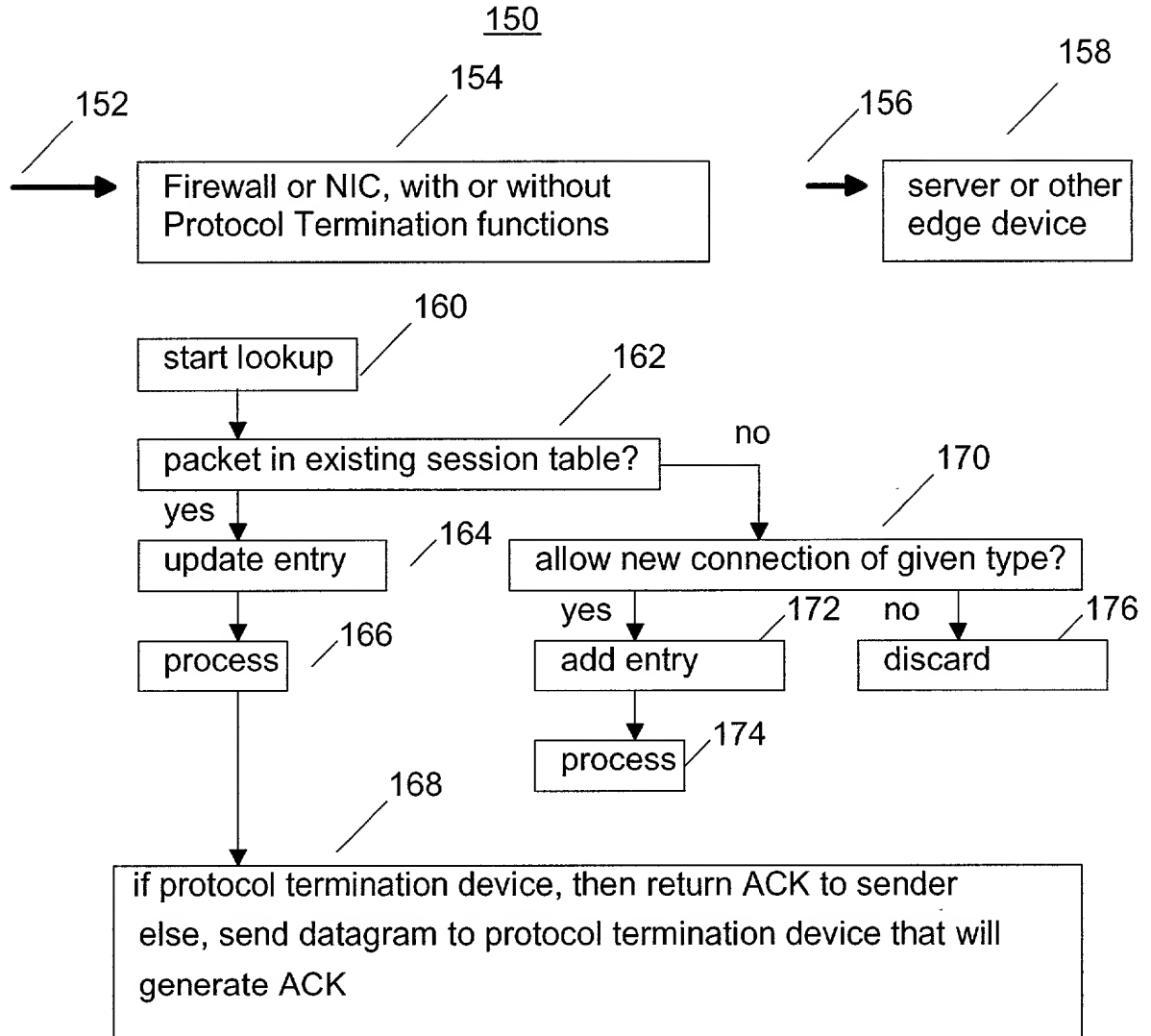


Fig. 3

200

low speed

Connection min and max values, pipe identifiers initialized in NIC

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moderate speed

Current connection numbers and congestion signals collected and made available to algorithm

Algorithm refreshes probability of connection for different classes of service

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high speed

New sessions request connections and connection decisions made

Fig. 4

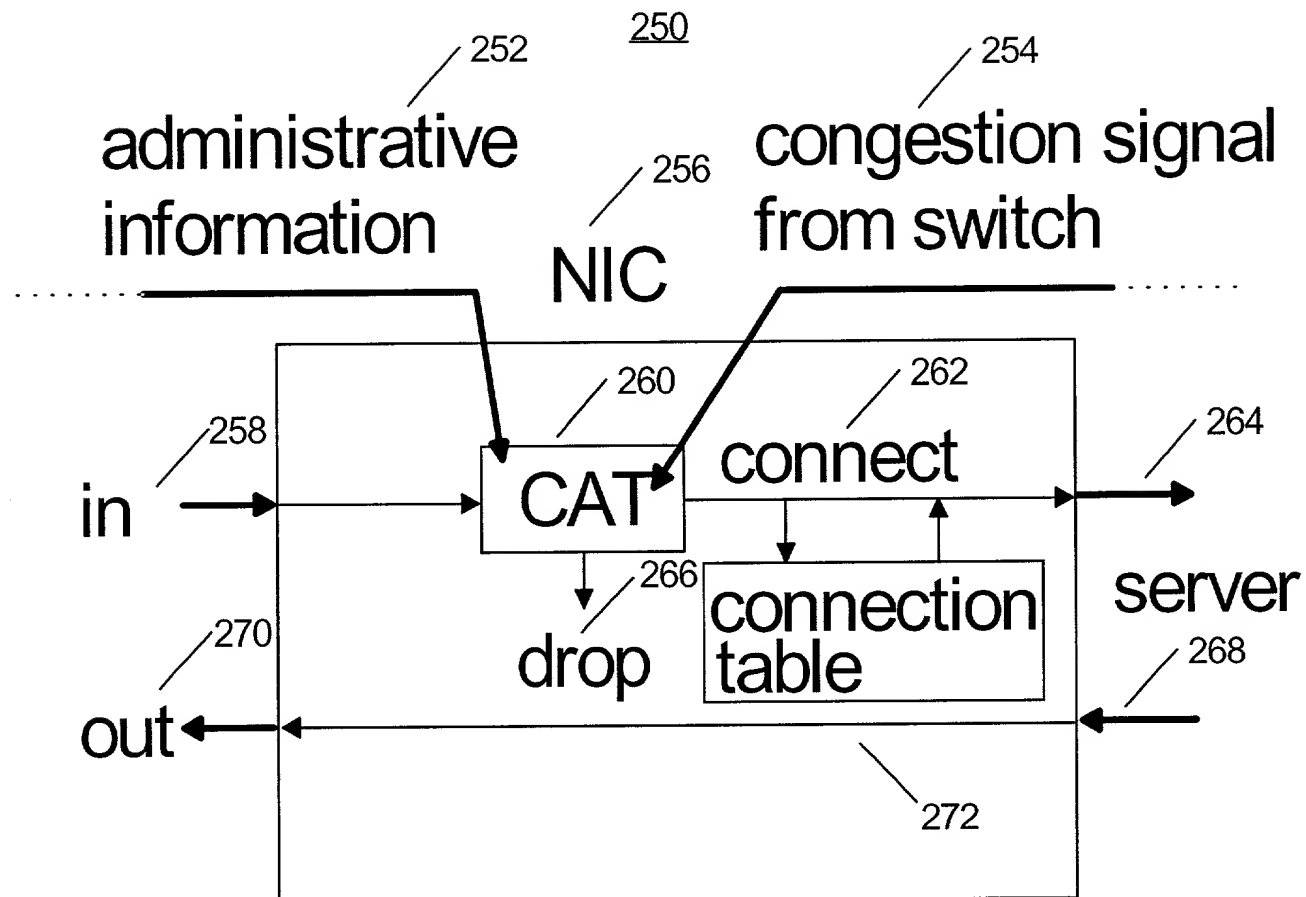
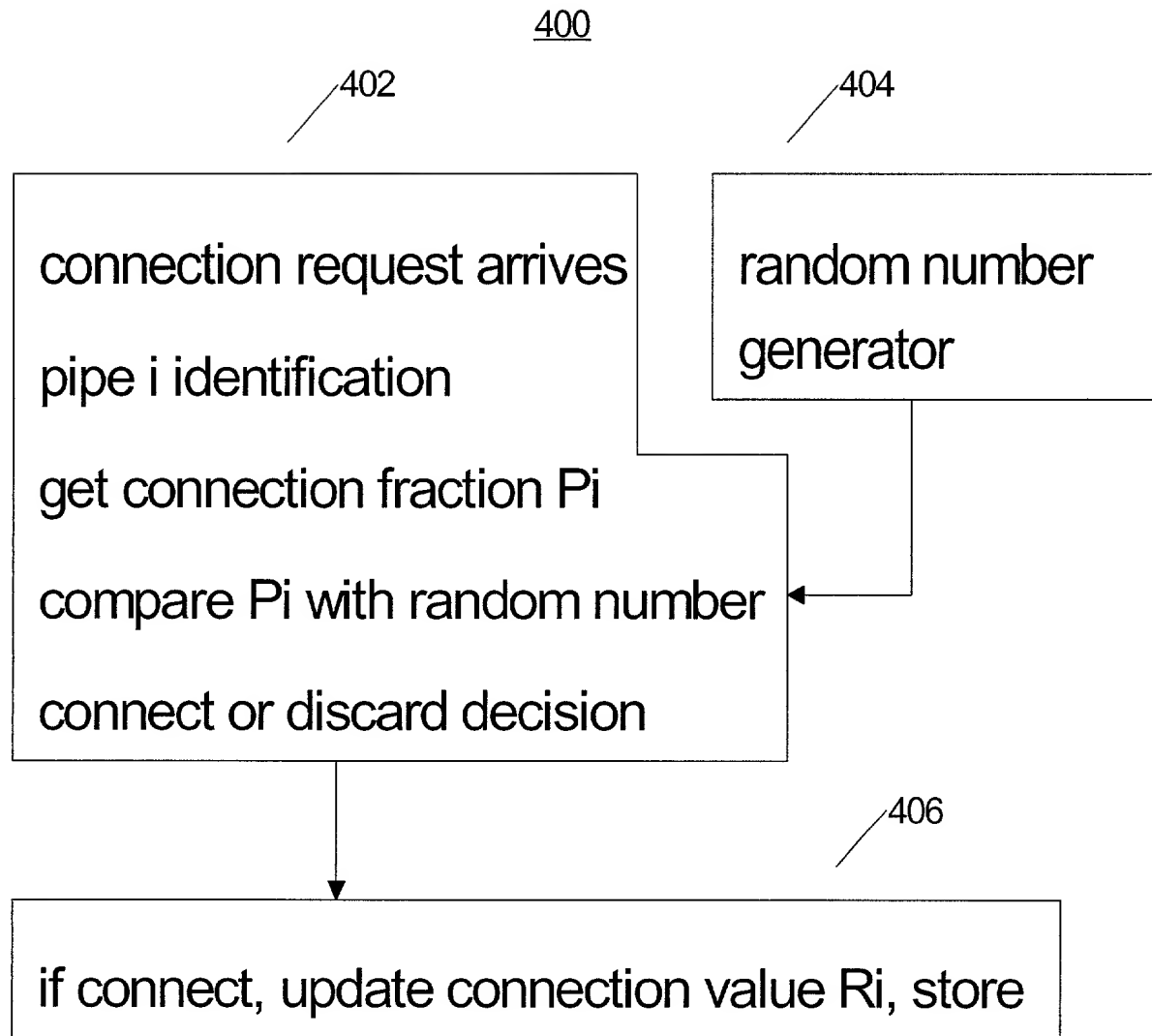


Fig. 5

300

1. min and max numbers of connections declared by administrator
2. coordinates of paths of traffic classes declared
3. paths using a common NIC source port collected in a set
4.  $C_i$  and  $D_i$  coefficients computed for each pipe
5.  $C_i$  and  $D_i$  entered in registers used in CAT calculation
6. congestion signals defined using path coordinates and resource limits

Fig. 6

**Fig. 7**

450

## NIC with CAT

### Update connection probability table

Timer awakens program with period  $D_t$

Fetch B, E values from registers

Update E and store

Fetch  $R_i$ ,  $C_i$ ,  $D_i$ ,  $P_i$  values from registers

Update  $P_i$  for each  $i$  and store in table of  $P_i$  values

Fig. 8

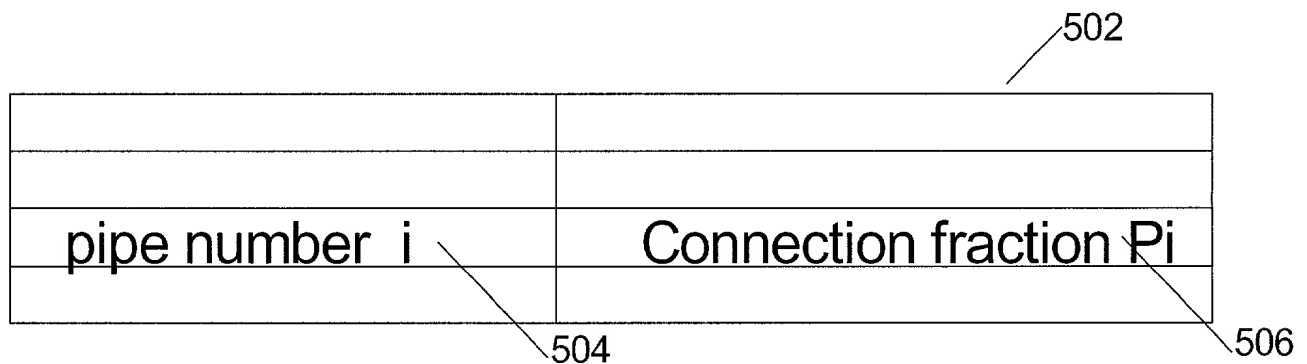
500

## CAT connection control refreshes connection fractions $P_i$ for pipes

Timer with period  $Dt$  awakens CAT.

New connection fractions computed per pipe.

Results stored in a table.



The diagram shows a table with two columns and four rows. The first row is empty. The second row is empty. The third row contains the text 'pipe number i' in the first column and 'Connection fraction  $P_i$ ' in the second column. The fourth row is empty. A label '502' points to the top right corner of the table. A label '504' points to the bottom left corner of the table. A label '506' points to the bottom right corner of the table.

pipe number i	Connection fraction $P_i$

Fig. 9